Dec 16, 2015

Ms. Ruth Barefoot
Santa Barbara Public Library
40 East Anapamu Street
Santa Barbara, CA 93101

Ref: Lyngsoe Systems Proposal 185.024.003 Santa Barbara Public Library

Dear Ms. Barefoot,

Thank you for your request for a proposal for the Lyngsoe Systems SortMate™ branch sorting system. We are pleased to provide you with fixed pricing for the Santa Barbara Public Library.

SYSTEM DESCRIPTION

This proposal for Lyngsoe Systems' Automated Material Handling Equipment is designed to automate the sorting of library items and eliminate manual tasks in the circulation room, providing library patrons a higher level of service. Patrons will approach one of the LibraryMates® and insert items. Items are received one at a time from each LibraryMate® then transported to the Lyngsoe SortMate™. These items are automatically inducted onto the sorter. Once inducted, the items will then be sorted and discharged directly to one of the following destinations:

1. ErgoTrolley Chutes (all configurable by library staff)
     a. Return to shelf
           i. Sort by SIP2 fields (location code, item types, call number, etc.).
     b. Holds
     c. Transfers
2. Overflow destination

The SortMate™ is configurable and easily expandable. If the Santa Barbara Public Library would decide to add additional sort points in the future, a new SortMate™ module could be added and running within a few hours—easily completed during off-hours with no impact to patrons and minimal to staff.

CAPACITY

The throughput for each system is 2,500 items per hour. However, this is regulated by the capacity of the LibraryMates® and Staff Inductions™ configured on the system. For example, one LibraryMate® has an average throughput of 900 items per hour and the Staff Induction™ has an average throughput of 1,100 items per hour thus resulting in an average throughput of 1,760 items per hour. This can be increased with the addition of induction points. Lyngsoe Systems has optimized the system controls so that items never stop on the sorter while other items are diverting. This allows for continuous flow from the LibraryMates®, higher throughputs, and longer life expectancy from your sorter drive components.

CHUTES

Included in this proposal is the pricing for one ErgoTrolley™ auto-leveling bin per sort point. Unit pricing for the ErgoTrolley™ is also included for spares. These trolleys are extremely durable and wheel easily over most surfaces. One auto-level trolley holds 12.4 ft³ with a capacity of 250 mixed library items (or 500 CD's or DVD's). They are a great addition to your work room. The ErgoTrolley™ features an auto-leveling floor, with a cushioned base; it assures gentle handling of library items. The auto-leveling feature is spring activated, so there is NO expensive and time-consuming maintenance required for batteries, chargers, lifting mechanisms, etc.

FINISH

Lyngsoe uses a baked-on powder-coat finish for all major components. The standard color is grey (Custom RAL colors can be supplied for an additional cost).

VOLTAGE

Standard voltage is 120-240VAC, 1 phase.

HOST INTERFACE SOFTWARE

All LibraryMates® include support for custom sort configurations, and can collect statistics for items that are return-to-shelf, holds, transits, and transit holds. Statistics are also available for numbers of sorts per hour.

EMERGENCY CONTROL DEVICES

One (1) emergency stop button is included per system.

Additional safety devices can be supplied and quoted upon customer request.

WARRANTY

A one-year parts warranty is included on all equipment. Further Service Agreements can be supplied and quoted upon request. System issues deemed not mechanical or software related (i.e.: vandalism, damage due to neglect, or unauthorized modifications) will be subject to a service charge TBD.

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OWNER'S RESPONSIBILITIES

a) Provide any necessary permits and/or licenses.

b) Provide power to a location in close proximity to the sorter and coordinated points near the conveyor route (within 10 feet) 120V single phase.

c) Provide 2 network drops per LibraryMate® or Staff Induction™ and one for each sorter for communication and support.

d) Provide one SIP license for each check-in station.

e) Provide a clear path for access to and from the installation site for personnel and equipment.

f) Provide secure, dry, convenient storage for equipment, tools and materials used on site.

g) Provide adequate working space for the installation crew.

h) Provide lighting for installation at the location where the work is to be performed.

i) Provide parking and restroom facilities.

j) If special lift equipment is required, Lyngsoe Systems must have access to a ramp door.

k) On site security.

l) Areas of installation to be broom swept by other contractors prior to the start of Lyngsoe Systems installation.

m) Provide no later than the scheduled start of installation date, the installation site free and clear and ready for Lyngsoe Systems to begin installation. Lyngsoe Systems acknowledges that some degree of facility construction may be underway during installation. The Purchaser acknowledges its responsibility to minimize possible resulting disruptions to Lyngsoe Systems' installation process.

n) Provide no later than start of installation date, all civil work and necessary removal or modifications of existing equipment or buildings. For instance the building modifications required for the installation of the LibraryMates® in exterior or interior walls, and penetration points through walls required by the conveyor run. Architectural finishing of penetration points after installation of LibraryMates® if required.

DESCRIPTION OF THE LIBRARYMATE® 1200 SELF CHECK-IN (INTERNAL UNIT)

The LibraryMate® 1200 is the latest offering from the Lyngsoe LibraryMate® product line. This unit is wall mounted and has a very small form factor for use in high traffic areas

The LibraryMate® 1200 self-return-machine was designed specifically for the library market to be the centerpiece of your self-service initiative. Check-ins using the LM1200 provide secure transactions, assuring that the item presented to the barcode scanner or RFID reader, is the item that is being returned. The patron simply places the material to be returned on the belt, and the LM1200 completes the transaction. Utilizing sensors along the inside of the LM1200, the item is tracked and scanned on the inside of the tunnel. When the check in is complete, it is transferred to the SortMate 2000 module for sorting

With the capacity to handle over 1100 items per hour, library users no longer have to wait in long lines to return items. The feed opening will accommodate up to 99% of all library materials.

Benefits of the LibraryMate® 1200:

- Touchscreen for language selection or receipt options
- Sturdy shelf for patron use
- Height of shelf and opening can be configured to different set heights to accommodate all patrons or varying backroom elevations
- Optional receipt printer
- Optional Color selections available for shelf, and back plate (shown in green below)

Figure 1- LibraryMate 1200

LIBRARYMATE FUNCTIONAL DESCRIPTION

The machine function is as follows:

- The default language in the initial screen picture is English, but as a standard three other languages are available and can be retrieved via the screen. If no alternative language is retrieved, the dialogue will continue in English.
- The user inserts the items one by one by pushing them into the machine. When the LibraryMate detects a new item in the opening, the machine starts the conveyor belt automatically.
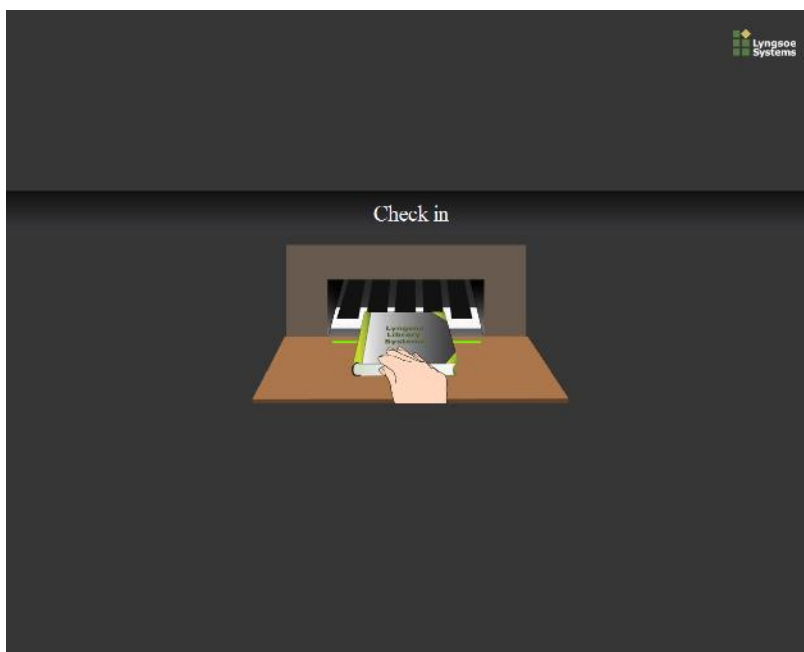

Figure 2- Patron Instruction Screen

- While the item passes through the machine, the item ID is read from the barcode or the RFID tag, the item is checked in with the ILS and the material protection (RFID or EM) is activated before the item is sent to the sorter.
- If a RFID tag or barcode is not detected in the tunnel, the LibraryMate can be configured to reject the item and return it to the patron.
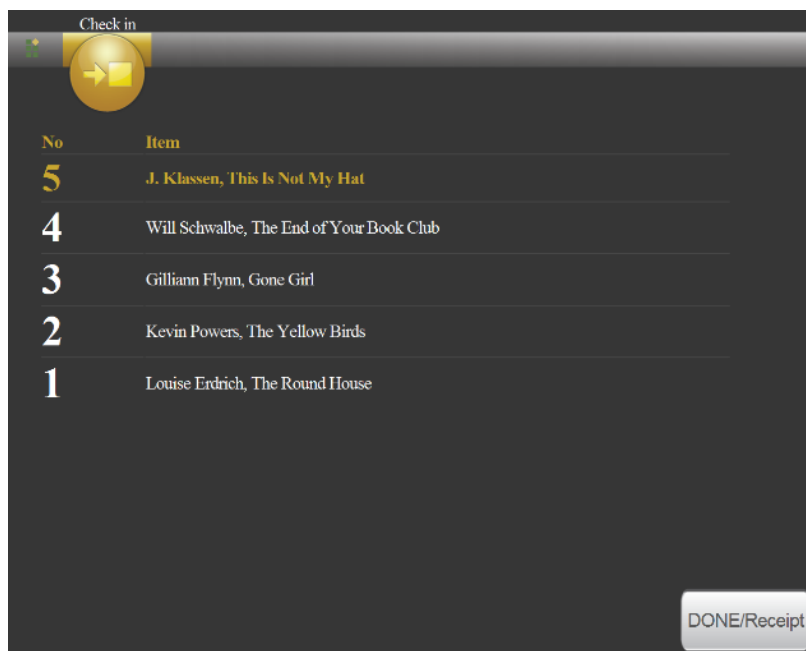
Figure 3- Check-in Confirmation Screen

- Once the machine is ready for the next item, the light in the opening changes from red to green.
- The above procedure must be repeated until all items have been returned.
- When all items have been returned, the user finishes the procedure by pressing "End" on the screen. Subsequently a receipt is printed. The screen displays an animation of the receipt printing. If the user does not press "End" within a defined period, the receipt is printed automatically so that the machine can get ready for the next user.
- If the receipt is not removed within a defined period, it is drawn back into the machine and dropped into an integrated paper bin. This way no printed receipt will end up on the floor in the return-machine area.
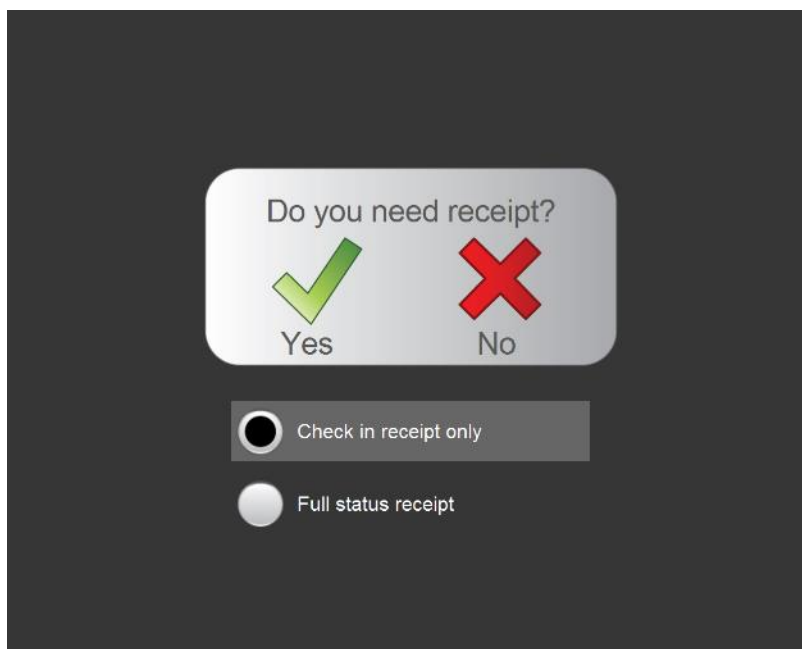
Figure 4- Patron Instruction Screen

Off Line mode

If the connection between machine and library network is down, the machine continues in off line mode and prints an off line receipt stating the material IDs for the user. Information about the returned materials is stored in the machine control and transmitted to the library database as soon as the connection to the library network has been re-established.

System configuration

During the engineering phase of the project, the Lyngsoe Project Manager will work with the Library to configure the machine with languages, sort schemes, receipt text, etc. Once we have the configuration, our engineers will assure that the programming on your machine meets all of your expectations

DESCRIPTION OF THE LYNGSOE SYSTEMS ERGOSTAFF 1200 STAFF INDUCTION™

The Lyngsoe Systems Staff Induction™ automates and optimizes material processing for library staff. The Staff Induction™ quickly becomes the workhorse of your circulation room by rapidly and efficiently checking in branch transfers, new material, and any items that need to be sorted and returned to shelf.

With the capacity of up to 1500 items per hour; library staff will not have to perform time-consuming and repetitive check-in processes, library materials will be on the shelf quicker and back into the hands of your patrons.

Your library staff will interface with the Staff Induction™ via a user-friendly touch screen with a graphical interface. Barcodes or RFID tags are read quickly and communicated with your Integrated Library System, RFID security is enabled, backdating and hold slip printing can all happen automatically, and check-in statistics can be monitored remotely. The Staff Induction™ work surface is height adjustable between 31.5" and 47.25", ensuring an ergonomic work environment standing or sitting.
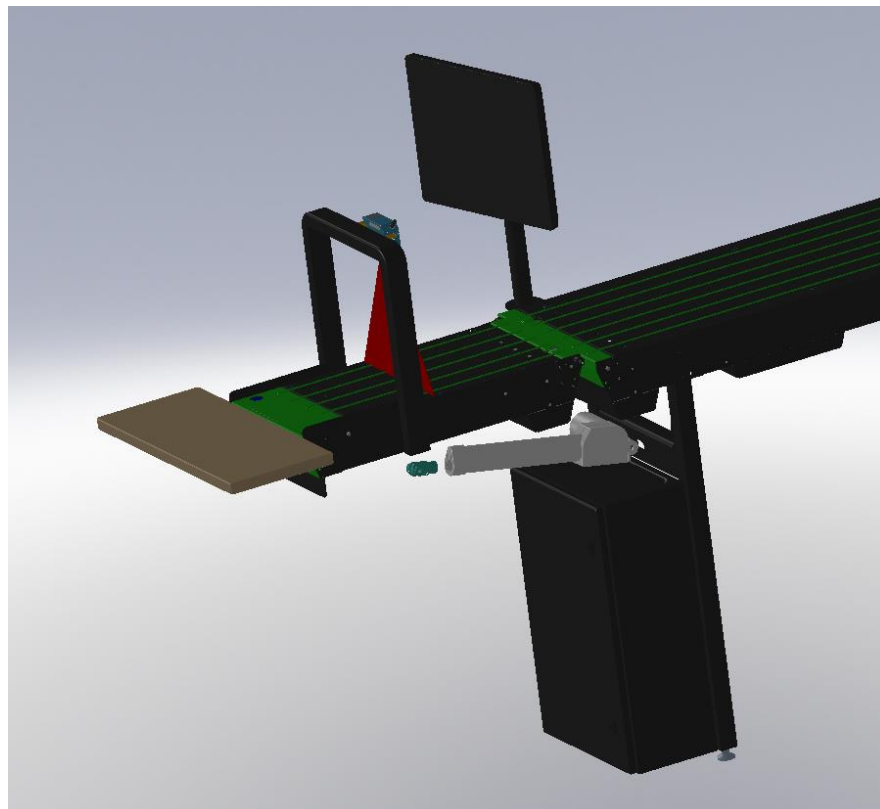

Figure 5- Lyngsoe ErgoStaff 1200

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DESCRIPTION OF THE SORTMATE™ 2000

The Lyngsoe SortMate™ is a high-speed sorting system that is the brawn behind the Lyngsoe Systems Automated Material Handling system. This sorter has been specifically designed for libraries, and is the ideal solution for sorting a vast array of library materials. Items checked in using a LibraryMate® or Staff Induction™ are electronically tracked throughout the length of the SortMate™ and sent to the proper discharge location.

Sensors located throughout the system assure that your library material is accurately sent to the proper destination. Lyngsoe has optimized the system controls so that items never stop on the sorter while other items are diverting. This allows for continuous flow from the LibraryMates®, higher throughputs, and longer life expectancy from your sorter drive components.

The SortMate™ has a low profile and whisper-quiet operation which will blend into your circulation room, not clutter it. The sorter features multiple transport belts for item stability and unsurpassed durability. Seated in between the transport belts are electrically actuated pop-up rollers that divert items to sort destinations on either side. Optional discharge configurations can accommodate auto-leveling ErgoTrolleys™, ErgoCarts™, Ergo Volumes™, media totes, or inter-library bulk tote containers.

Figure 6-SortMate™ external 5-bin configuration

Technical Specifications – SortMate™

Sorting capacity:	2,500 material units per hour
Material dimensions:	Max: 400 x 300 x 100 mm (L x W x H) 15.8 x 11.8 x 4 inches (L x W x H) Min: 100 x ´100 x 5mm (L x W x H) 2.6 x 2.6 x .1 inches (L x W x H) Max weight: 5 kg Min weight: 30 g
Material types that can be handled in the machine:	Books, CD-ROMs, books with enclosures, talking books, video tapes, cassette tapes. Book-like material units containing cassette tapes / CDs.
Requirements for materials:	The bottom side of the item must be flat.
Floor level:	The floor where the sorting system is installed must not vary more than +/- 5 mm.

SORTMATE FUNCTIONAL DESCRIPTION

Interface

The LibraryMate® check-in units and Staff Inductions™ communicate to the Library's ILS using the SIP2 protocol. Once the item has been checked-in, information about the items to be sorted is transferred through an Ethernet interface to the sorter control system and the item is sent to its proper destination.

For effective remote support, a VPN connection must be established between our Hotline/Service department and the sorting system. This VPN connection will assure that the technicians from the Lyngsoe Systems Hotline can gain direct access to the sorting system controls to quickly and efficiently diagnose any system issues.

The drawing below (See Figure 5) shows the basic communication structure between the sorting system and the library system.
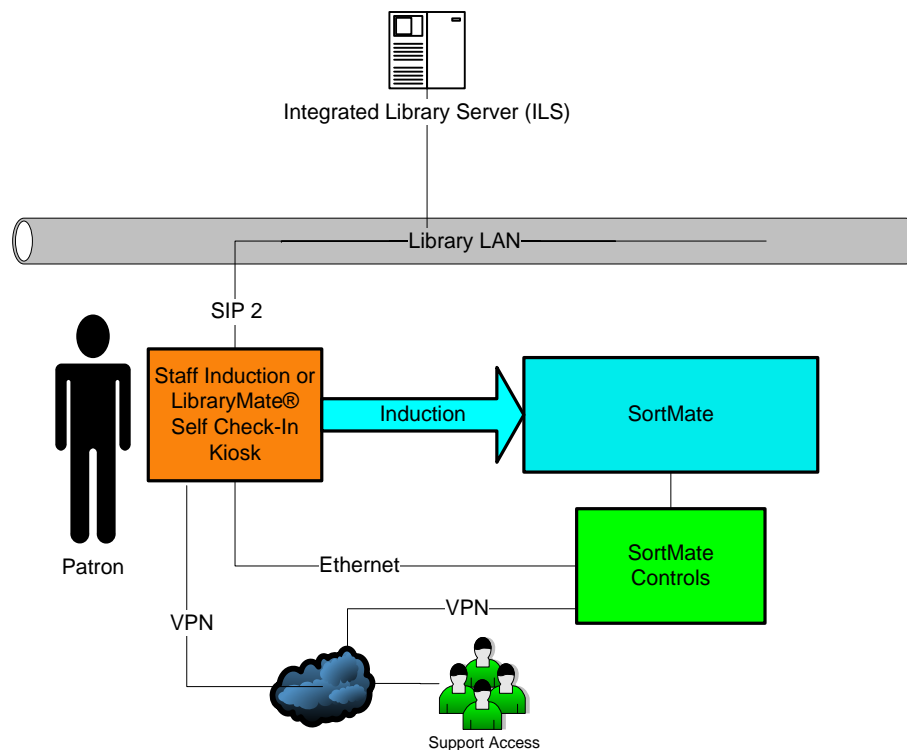

Figure 7- Basic Communication Structure

Sorter Design

The SortMate™ is a linear belt sorter consisting of a straight conveying section, on which each piece of library material is transported. The conveying section consists of 6 parallel belts conveying the material to the correct discharge. The round belts on the sorter provide reliable transport of soft materials such as newspapers, magazines, books without hard cover, etc.

At each sorting system discharge, pop-up transverse rollers (diverters) are mounted which lift electrically when items pass over them. When the item is lifted, the rollers roll right or left, directing the items into the book carts placed on either side of the sorting system.
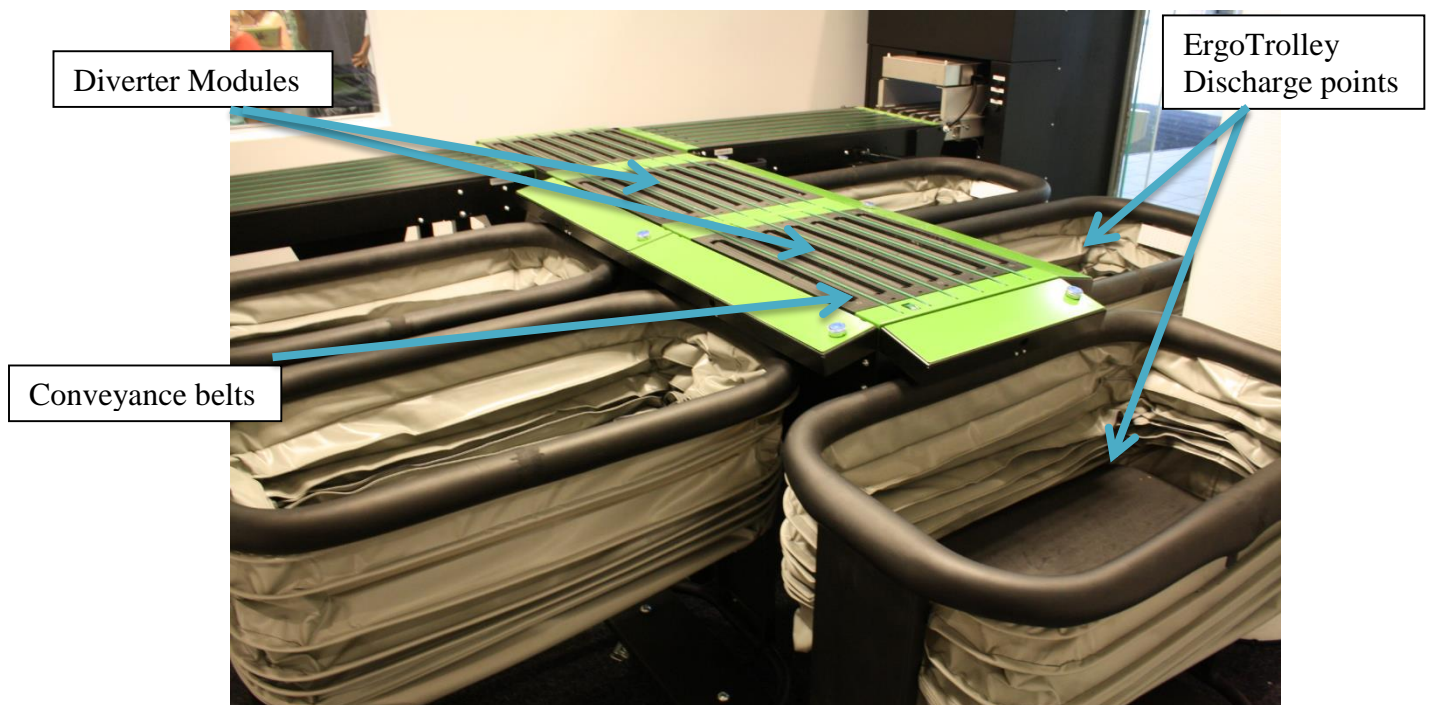

Diverter Modules

ErgoTrolley Discharge points

Conveyance belts
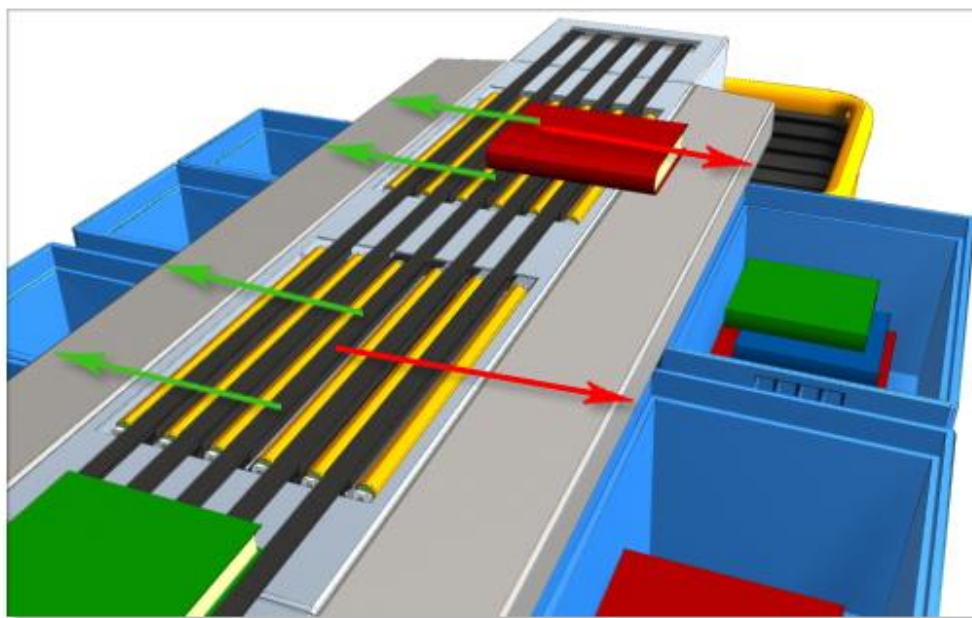
Figure 8- SortMate components

Figure 9- Sorting Principle

Function

The sorting system works as follows:
- The patron inducts one item at a time into the check-in.
- The material ID is read from either the barcode or RFID tag on the item being returned and is checked with the information in the ILS.
- If the material is accepted by the ILS, a "location" or classification for the material is returned to the LibraryMate®.
- The material is automatically conveyed into the sorting system towards the correct discharge.
- When the material reaches the correct discharge, it is automatically lifted by the transverse rollers, which then puts it in the correct bin at one of the sorting system sides.
- The patron continues this process until all their items are returned.
- Once complete, a receipt is printed (optional).

Discharge of Reserved Items

Normally the sorting system will include a special destination for reserved or "hold" items. If the library issues all reserved items with reservation tickets, the ticket printing can be linked to the sorting. Once the reserved item has been transferred from the LibraryMate®, the sorting system informs the library system and subsequently the reservation ticket is printed. In which case, reservation ticket printing and discharge of the item reserved takes place simultaneously.

Monitoring

Remote supervision of the system via a web-based monitoring service is included. This utility allows the library staff to view the sorting system status from any PC in the library network. The following system information can be accessed via the web-interface:

- Communication failure with the library system
- LibraryMate® is stopped
- Sorting system is stopped
- System sort configuration parameters
- Review error logs
- Change other system parameters

Staff Functions

During the sorting system commissioning, a sorting table is configured determining where items are to be discharged. The sorting system controls can store alternative sorting tables. Training selected staff members during sorting system delivery ensures that afterwards library staff will be able to make the following adjustments on their own:

- Backdating at the Staff Induction
- Edit the sorting table of which locations to be sorted into which discharges
- View returns and sorting statistics from the system
- Choose alternative sorting tables, if an alternative or finer sorting is required
- Set up special chutes
- Change display text on patron screen, or receipts

DISCHARGE TYPE – ERGOTROLLEY

If your library sorts a large amount of items without emptying the book carts, Lyngsoe offers a trolley with extra capacity and a spring-loaded auto-leveling floor.

When items are sorted into the trolley, the bottom will lower incrementally. Chute full monitoring can take place by a photo cell transmitting a signal to the sorting system control when the book cart is full and a replacement cart required.

The trolley can be placed at either side of the sorting system or at the end of the SortMate™.
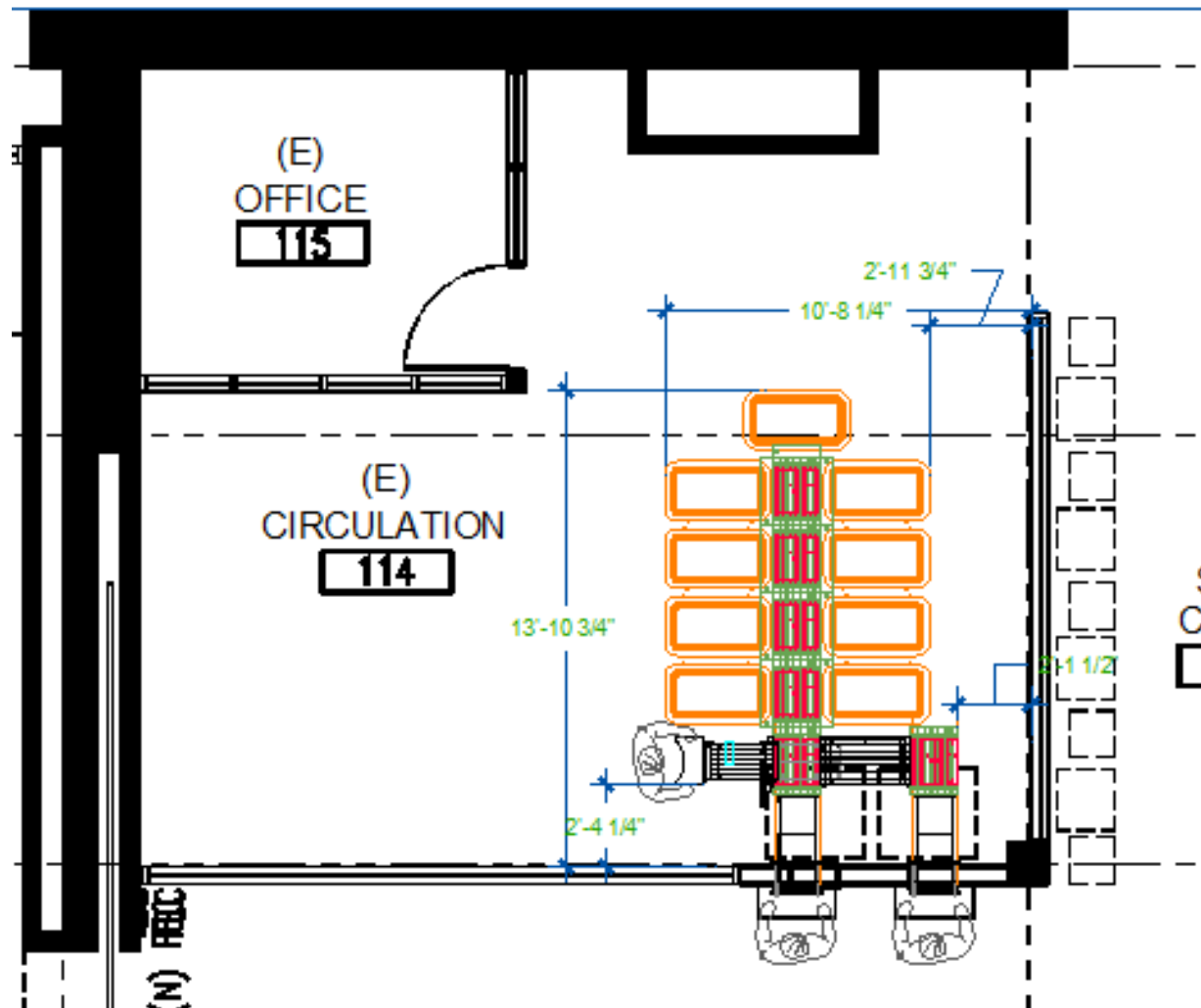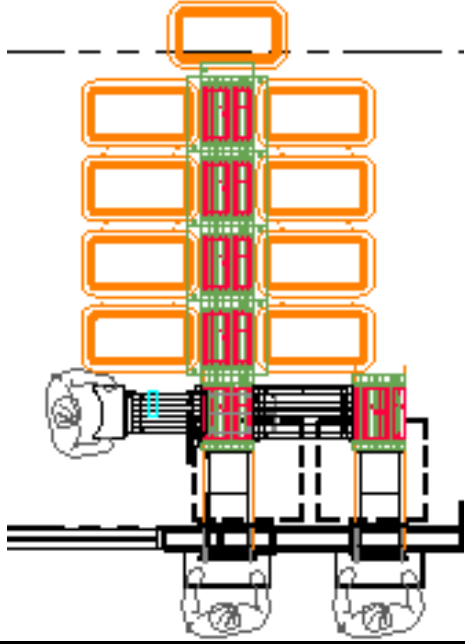

Figure 10-ErgoTrolley

Technical Specifications

Book cart size:	36.8 x 20.9 x 26.7 inches (L x W x H) 935 x 530 x 935 mm (L x W x H)
Book cart weight:	88.2 lbs. (40 kg)
Maximum load:	264.6 lbs. (120 kg)
ErgoTrolley™ capacity of assorted books:	250-300
Items convenient for stacking into book carts:	Books, books with enclosures, talking books, video tapes, cassette tapes, CDs, DVDs, newspapers, magazines and other items in "soft" covers. Book-like items, e.g. items containing cassette tapes/CDs

DRAWINGS

Figure 11- Upstairs system with 2 patron returns

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PRICING SUMMARY

Santa Barbara Public Library *upstairs Drawing B25366-0-2-1	Price

Sortation System – Interior system
 	
• Qty (2) LibraryMate 1200 check-in station (RFID and Barcode Hybrid)
  ▪ Touchscreen Monitor
  ▪ Shelf
  ▪ Receipt printing options- paper, email, or SMS
• Qty (1) Staff Induction check-in station (RFID and Barcode Hybrid)
  ▪ Height adjustable
  ▪ Touchscreen monitor for staff interface
  ▪ Hold Slip printing *selection of standard layouts
• SortMate 2000 Sorter Modules
  ▪ Total of (9) sort destinations
    • 8 ErgoTrolley destinations with full sensors
    • 1 exceptions destination
• Qty (9) ErgoTrolleys
• Sorting/Check-in operator software
• Installation
• Commissioning
• Training
• Spare Parts
• Shipping
• Parts Warranty (Standard 1 year)
• Hotline (24/7) – (Standard 1 Year)	

Base price	**$156,721 USD**
BASE PRICE DISCOUNT	**-$25,721 USD**
TOTAL	**$131,000 USD**

FUTURE SERVICE AGREEMENT BUDGET COSTS

• Service Agreement (year 2)
  ▪ Parts Warranty
  ▪ Hotline (24/7)
  ▪ Preventative Maintenance and Service Inspection (1 visit)	

price	**$17,036 USD**

• Service Agreement (year 3)
  ▪ Parts Warranty
  ▪ Hotline (24/7)
  ▪ Preventative Maintenance and Service Inspection (1 visit)	

price	**$17,718 USD**

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OPTIONS

Santa Barbara Public Library	
	Price

Optional add 2 sort destinations
 	
• SortMate 2000 Sorter Modules
    ▪ Total of (2) sort destinations
        • 2 ErgoTrolley destinations with full sensors
• Qty (2) ErgoTrolleys
• Installation
• Commissioning
• Shipping
• Parts Warranty (Standard 1 year)	

price	**$14,115 USD**

PRELIMINARY PROJECT SCHEDULE

Contract Signature/Letter of Authorization   : Receipt of PO
Drawings Approved   : 1 weeks At Receipt of Order (ARO)
Shipment   : 14 weeks ARO
Start Installation   : 18 weeks ARO
Installation Completed   : 19 weeks ARO
Final Acceptance (Start of Warranty)   : 19 weeks ARO

THIS PROPOSAL IS VALID FOR 90 DAYS

We trust the above information has met with the approval of Santa Barbara Public Library System. Lyngsoe Systems strives to meet the challenge of providing high-quality Sorters and related equipment to an ever-changing library market.

Yours Truly,

Jason Downs
Lyngsoe Systems, Inc.
Library Systems North America

Attachments: drawings